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1983 Dodge/Sweet's Construction

OUTLOOK

Getting Older, Not Better

Superannuation has become an issue in the near-term outlook both for the construction sector and for the economy as a whole. The expansion of the construction market began as long ago as 1982:III; the economy's recovery dates from 1983:I. And now—some four-and-a-half years later—the continuity of both these aging expansions is getting more tenuous with each passing quarter.

Conventional wisdom (the consensus forecast of the economics profession as expressed in October's annual survey of the National Association of Business Economists) is that economic policy will yield to political considerations in 1988, deferring the risk of recession until 1989. But even if the general business expansion can be stretched out for another year, the construction sector, which often leads general business activity, can't hold out that long.

As a point of departure for the *1988 Dodge/Sweet's Outlook*, it is worth considering how the construction market is *supposed* to behave when the economy approaches an upper turning point. First thing to recognize is that the construction sector does not react monolithically. Housing often leads the general business cycle into decline, and for good reason. It is notoriously credit sensitive. As the economy approaches its peak, the many demands on the credit market drive interest rates up, and homebuilding usually gets crowded out. Commercial and industrial building, on the other hand, is supposed to behave like other forms of business capital spending, which is to lag the movements of general business activity. And finally, public works construction, which is traditionally used as an instrument of countercyclical support of the sagging economy (remember the Accelerated Public Works program of the mid-70's), may well be rising while residential and commercial building are declining.

With these textbook stereotypes of the construction sector's proper role in the unfolding of the business cycle as a yardstick, how typically is the building market behaving this time around? Instead of following the time-honored script, construction activity is perversely doing its act backwards. Commercial building, which should be at its best late in the cycle, has in fact been leading the construction sector into decline since early in 1986. Public works construction has been unusually erratic for the past year as Congress and the Administration wrangled over major legislation. Meanwhile, one family homebuilding, traditionally the first building market to crack as the cyclical clock runs out, instead has been one of the key sources of support through 1987.

This is anything but typical behavior, and some special situations are responsible for much of the current role reversal among the major construction categories. The uncharacteristic weakness of commercial building is, of course, the inevitable reaction to a five-year binge of overdevelopment that began with ERTA's accelerated depreciation and ended with tax reform. Public works construction is temporarily above normal, as this market makes up for a six-month lapse of the Federal highway program. And one family homebuilding has simply been responding (until recently) to the lowest mortgage rates available anytime in the 1980's.

A Two-Tiered Market in 1987

More about these special situations later. For the time being, they leave 1987 construction activity in a curious kind of partial or selective cyclical decline. While offices, apartments, and a few other strung-out building markets are making their adjustments to the reality of tax reform, some other categories are doing quite nicely. Enough of them were still leading last year's rate of contracting through 1987's third quarter to stabilize the total.

Selectivity is just as apparent in the geography of the 1987 building market. Because most of the surplus of new offices and apartments that were encouraged by accelerated depreciation are concentrated in the South and the West, these previously booming regions can now be found in the minus column. By contrast, the better-balanced Northeast and North Central regions are where the action is this year.

Until recently, it could be said that as long as you were not exclusively into offices or apartments, and not totally committed to the Southwest, you weren't in any real difficulty in 1987. You can't say that anymore. The reversal of interest rates since mid-1987 has

changed things. By threatening to erode the market's remaining support, higher interest rates could turn what up to now has been a partial recession into a general decline.

Tighter credit may be the newest risk the construction sector faces in 1988, but it isn't the only one. Renewed effort at deficit reduction could spell trouble for public works programs. The correction of the overbuilt office and apartment markets is by no means completed.

On the other side of the ledger, "election year economics" could stretch the economy's creaking expansion through 1988. The trade deficit may finally begin to narrow. So, too, will the budgetary deficit. And inflation will remain below 5 percent, even if not much below.

A brief evaluation of these "environmental" influences on the construction sector in 1988 precedes specific forecasts of the major building markets.

Interest Rates

Apart from a brief interruption in 1984, interest rates declined steadily from their 1981/82 peak through early 1987. More than anything else, the reversal of monetary policy, from extreme restraint to accommodation, made possible the long period of expansion for the credit-sensitive construction sector and for the economy at large. Another reversal of monetary policy in 1987, back to restraint, puts both of these expansions in jeopardy.

If the current tightening of credit is what it appears to be—a *temporary* departure from the central bank's basic position of monetary accommodation, and not a major policy shift to anti-inflationary restraint—the recent rise of interest rates could be transient and limited. The most credible explanation for tightening credit in 1987 has less to do with the strength of inflation at home than with the weakness of the dollar abroad.

With reasonably vigorous growth of the domestic economy in 1987, along with only moderate inflation, the Fed has had the opportunity this year to modify its priorities in favor of international financial problems. Next year will not offer that luxury. The political realities of 1988 require giving top priority to domestic affairs which, in this instance, means coaxing a tired economy through yet another year of growth. Not only does the Fed have the motivation to be more stimulative in 1988, but it has the justification as well. The fiscal drag of deficit reduction is, by itself, reason for some monetary relaxation. Good economics can sometimes be consistent with good politics.

If the dollar is dominating monetary policy in 1987, and domestic considerations will be foremost in 1988, what will be influencing interest rates in 1989? By then, the risk of recession will be even greater. In 1989, the prospect of weak loan demand in combination with continued monetary ease, should be pulling rates down.

Unless new international complications arise, the period of maximum stress for interest rates should not extend much beyond early 1988. For the near term, it is assumed that short-term rates will reach their peak in the first quarter of 1988. Mortgage rates will peak in the second quarter at just under 12 percent, and decline through the remainder of next year to 10¼ percent at year-end. By mid-1989, conventional fixed mortgages will again be below 10 percent—close to the rate prevailing in 1987 I.

Other Influences

Most of the remaining external influences on the construction market in 1988 are familiar carryovers, although some are taking more favorable directions.

Deficit Reduction Despite false starts, the process of mandatory deficit reduction that began with the Gramm-Rudman act is finally beginning to yield results. With the help of tax reform and some one-time spending cuts, the 1987 deficit will come in at about $160 billion, a major reduction from the record $221 billion reached in 1986.

New legislation has strengthened the budget balancing law. By requiring automatic spending cuts (half from the military budget) if Congress and the Administration fail to agree on a budget that meets revised deficit targets, it establishes a tentative goal of another $23 billion reduction for fiscal year 1988. As always, however, revenue is the wild card in the budgetary game. An unrealistic revenue assumption can produce the *appearance* of deficit reduction; a tax increase (which can be rationalized by euphemisms such as "closing loopholes" and "user fees") may be necessary to make it happen.

Onward To ZPG

Broad measures of population change no longer excite the imaginations of anyone involved with the construction/building materials industry. Quite the reverse, they explain why "growth" is no longer the appropriate word for the construction sector.

Take total population, for example. Back in the mid-1960's, the U.S. population was expanding at the robust rate of 1.2 percent per year. As populations of mature societies go, that was a pretty good clip. But by the mid-1970's growth had slowed to 1.0 percent, and over the next ten years, to its current 0.9 percent. By the mid-90's, population growth is projected to diminish to 0.7 percent.

Try another measure—one that's more directly related to construction demand. In the mid-1960's, the rate of household formation (newly formed households, whether by marriage, some other arrangement, or just persons living alone) was an unimpressive 1.1 million per year. By the mid-70's, when the baby boomers were reaching their twenties, household formation hit its all-time high of 1.6 million. (It was no coincidence that housing starts were also at a peak.) By the mid-80's, household formation had slowed to 1.4 million annually, and in another ten years will be down to 1.2 million—almost where we were back in the 1960's.

Migration is another source of demand for construction. If the 1960's can be considered a period of more or less normal movement of the population along a Northeast to Southwest axis, the 1970's—remembered by the label "Sunbelt Shift"—were anything but normal. Responding to the above-average population influx, building activity was never stronger in the Southwest than in the late '70's and early '80's. But it's all over now that migration has settled back into a stable pattern once again.

Further progress in deficit reduction is a trade-off for the construction sector. It will hasten the return to single digit interest rates, but is likely to restrict funding for public programs. Throughout the 1980's, budgetary restraint has had a mixed impact on the availability of Federal construction money. Traditional reliance on earmarked user taxes has virtually insulated highway construction from all but temporary interruptions, but HUD's housing programs have been in steady decline since early in the decade. New housing legislation—the first in 6 years—already bears the Administration's label of "budget buster," and faces the inevitable veto treatment. Meanwhile, recent passage of three major infrastructure bills has reinforced the higher Federal priority given to public works construction in the 1980's.

State and local governments have not only put through substantial tax increases in recent years, but have been taking advantage of falling municipal bond rates. They are finally in a position to respond to the challenge of the "New Federalism" which demands greater local participation in publicly financed construction.

The Trade Gap, besides exerting upward pressure on interest rates as well as generally dampening the economy's growth, bears selectively on the manufacturing sector. As imports displace domestic production, excess capacity lingers, depressing industrial construction. Even as the trade gap closes a bit in 1988, stimulus to industrial construction will not materialize until excess capacity is taken up—a process that could take several years.

Tax Reform changed the rules for commercial real estate development in 1987 by eliminating the considerable advantages of accelerated depreciation and sheltered income. Actually, the 1987 tax act did little more than write an "official" conclusion to a five year building boom which the saturated marketplace recognized was over by 1986. Largely a regional problem, the need to absorb vast quantities of recently built offices and apartments throughout the Southwest will retard new construction there for the balance of the decade.

Inflation will be getting a low priority among the nation's economic problems for at least another year. Price pressures of about 4 percent—a little higher in consumer prices, a little lower as measured by the GNP deflator—offer the Federal Reserve enough flexibility in the use of monetary policy to help extend a long period of business expansion through 1988.

Demographic Change takes place too slowly to have a strong influence on construction activity in any individual year, but over the course of a full building cycle, population movements can be quite dynamic. A comparison of demographic profiles at the time of the last cyclical peak of construction (the late 1970's), the present, and the next probable peak (the early 1990's) says a lot about how the construction industry will emerge from the cyclical decline that has barely begun. (See box.)

Population characteristics are the single most important determinant of the nation's construction needs, but they should be thought of as *potential*, not as "demand." The realization of demographic potential for housing, schools, offices, and other construction depends, at any time, on the multitude of economic and political variables that go into making demand effective: employment and income, interest rates, tax laws, public programs, and more.

For at least three decades, the maturing of the Fifties Generation has been the driving force of the construction market. The advance of this group into the early middle age (30 to 50) and the void that follows it (15 to 30) will be no less important in shaping the construction markets of the 1990's.

All of these broad demographic measures are saying the same thing: as a basic source of demand for construction, population dynamics are not what they used to be. But wait... those baby boomers aren't finished with us yet.

Deep within the total of our 250 million population is where some of the most interesting changes are taking place. More important for the construction market than the 0.9 percent overall growth are the specific age groups which are responsible for most of it. Here's how it looks between now and 1992 (tentatively the next peak of building activity):

- Although the total population will be 4 percent larger by 1992, there will be 4 percent fewer people between the ages of 55 and 65.
- Two groups which will be growing somewhat faster than average are the "Under 15's" (the birth rate picked up in the late 1970's), and the "65 and Overs" (the longevity angle).
- And where are those kids born in the 50's and 60's now? Swelling the ranks of the 30 to 50 age group, which, not unsurprisingly, will be the fastest growing category of any during the next 5 years: up 14 percent!
- Just as important to construction market planning for the 90's is awareness of the baby *bust*—the young adults, now age 15 to 30. By 1992, there'll be 9 percent fewer of them.

Relating these plusses and minuses to specific building types isn't very hard. Above-average growth at the ends of the population spectrum translates into needs for elementary schools, retirement housing, and health care facilities. Shrinkage of the young adult group could mean reduced demand for apartments, offices, and higher educational buildings. But unless social customs have changed greatly, early middle age is still the age of acquisition. One family homes and condos, retail buildings, and recreational facilities are where the demographics of the early 1990's appear to be taking us.

Construction Contracting In 1988

With interest rates the biggest risk, the other external influences on construction in 1988 are reasonably predictable. Together, they lead to a second step down from the 1986 cyclical peak.

What takes place in the construction sector during the year ahead is, of course, only one segment of a sequence that began a year ago, and will extend beyond 1988. It is, however, the immediate concern of the next several pages.

1988 National Estimates
Dodge Construction Potentials

Nonresidential Building	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Floor Area (millions of square feet)			
Office Buildings	265		–15
Stores and Other Commercial	565		–11
Manufacturing Buildings	145		—
Total Commercial and Mfg.	975		–10
Educational	120		– 2
Hospital and Health	76		– 5
Other Nonresidential Buildings	144		– 2
Total Institutional and Other	340		– 3
Total Nonresidential Building	1,315		– 8
Contract Value (millions of $)			
Office Buildings	$21,800		–12
Stores and Other Commercial	23,775		– 7
Manufacturing Buildings	7,075		+ 5
Total Commercial and Mfg.	$52,650		– 8
Educational	$11,200		+ 3
Hospital and Health	8,300		—
Other Nonresidential Buildings	12,800		—
Total Institutional and Other	$32,300		+ 1
Total Nonresidential Building	$84,950		– 4

Residential Building	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Dwelling Units (thousands of units*)			
One Family Houses	1,015		– 4
Multifamily Housing	585		– 6
(*F.W. Dodge basis)			
Total Housekeeping Residential	1,600		– 5
Floor Area (millions of square feet)			
One Family Houses	1,674		– 4
Multifamily Housing	600		– 6
Nonhousekeeping Residential	86		– 7
Total Residential Building	2,360		– 5
Contract Value (millions of $)			
One Family Houses	$ 85,050		– 1
Multifamily Housing	27,275		– 4
Nonhousekeeping Residential	6,750		– 4
Total Residential Building	$119,075		– 2

Nonbuilding Construction	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Contract Value (millions of $)			
Transportation Construction	$ 26,400		– 2
Environmental Construction	15,000		+ 3
Total Public Works	$ 41,400		—
Utilities	$ 3,000		—
Total Nonbuilding Construction	$ 44,400		—

All Construction	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Contract Value (millions of $)			
Total Construction	$248,425		– 3
Dodge Index (1982 = 100)	158		

Total Construction Contract Value

Seasonally adjusted annual rates in billions of dollars

Year	Quarter	Nonresidential Building	Residential Building	Nonbuilding Construction	Total Construction
1987	I	$83.7	$124.7	$41.7	$250.1
	II	85.6	115.4	47.1	248.1
	III	86.8	120.7	44.5	252.0
	IV	83.7	115.5	44.3	243.5
1988					
1987		$84.9	$119.1	$44.4	$248.4
1988					
% Change		– 4	– 2	—	– 3

Construction Planned Values Constant Prices

(Millions of 1982 Dollars)

	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Nonresidential Building	$ 73,175		– 7
Residential Building	92,375		– 5
Nonbuilding Construction	37,675		– 4
Total Construction	$203,225		– 6

1988 Regional Estimates Dodge Construction Potentials

Northeast (CT, ME, MA, NH, NJ, NY, PA, RI, VT)	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Contract Value (millions of dollars)			
Nonresidential Building			
Commercial and Manufacturing	$10,875		– 3
Institutional and Other	5,725		+ 2
Total	$16,600		– 1
Residential Building			
One Family Houses	$13,525		+ 6
Multifamily Housing	5,950		– 7
Nonhousekeeping Residential	1,225		–14
Total	$20,700		+ 1
Nonbuilding Construction			
Transportation	$ 5,175		—
Environmental	3,000		– 1
Utilities	925		–24
Total	$ 9,100		– 3
Total Construction	$46,400		—

South (AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV)	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Contract Value (millions of dollars)			
Nonresidential Building			
Commercial and Manufacturing	$17,225		– 8
Institutional and Other	12,225		– 1
Total	$29,450		– 5
Residential Building			
One Family Houses	$32,975		– 5
Multifamily Housing	8,225		– 3
Nonhousekeeping Residential	2,300		—
Total	$43,500		– 5
Nonbuilding Construction			
Transportation	$10,025		– 3
Environmental	5,675		+ 3
Utilities	975		+ 10
Total	$16,675		– 1
Total Construction	$89,625		– 4

North Central (IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI)	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Contract Value (millions of dollars)			
Nonresidential Building			
Commercial and Manufacturing	$12,100		– 8
Institutional and Other	6,725		+ 3
Total	$18,825		– 4
Residential Building			
One Family Houses	$16,125		– 1
Multifamily Housing	5,250		–10
Nonhousekeeping Residential	1,325		– 9
Total	$22,700		– 4
Nonbuilding Construction			
Transportation	$ 5,725		—
Environmental	3,425		+ 5
Utilities	450		+11
Total	$ 9,600		+ 2
Total Construction	$51,125		– 3

West (AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY)	1987 Preliminary	1988 Forecast	Percent Change 1988/87
Contract Value (millions of dollars)			
Nonresidential Building			
Commercial and Manufacturing	$12,450		–11
Institutional and Other	7,625		+ 1
Total	$20,075		– 6
Residential Building			
One Family Houses	$22,425		– 1
Multifamily Housing	7,850		+ 1
Nonhousekeeping Residential	1,900		+ 1
Total	$32,175		—
Nonbuilding Construction			
Transportation	$ 5,475		– 4
Environmental	2,900		+ 7
Utilities	650		+12
Total	$ 9,025		+ 1
Total Construction	$61,275		– 2

Nonresidential Building

As the nonresidential building market begins its third year of decline, the *1988 Outlook* is more in the nature of a progress report than a forecast. There is little mystery about which way nonresidential building will be going in 1988. It is only a matter of how far down and for how much longer.

Do previous nonresidential cycles offer any useful insights? Conveniently, the last three cyclical declines all started from similar peaks of 1.4 billion square feet. From 1973 to 1976, nonresidential building declined a total of 34 percent over three years before reversing. From 1979 to 1982, also a three-year decline, the loss was 31 percent.

So much for similarities. The current cyclical decline, which is now two years along, is still within 8 percent of its 1985 peak. Either this one has a lot of catching up to do in its third year (1988), or it is taking a different path.

Two features of the current cycle support the notion of a different path. One is the regional character of the commercial and industrial building market—strong in the Northeast, weak in the Southwest. The other is the stabilizing influence of institutional building—still expanding in 1987. These departures from the typical behavior of nonresidential building are leading to a shallower, but longer decline than either of the last two cycles.

Commercial and Industrial Building

The decline of commercial and industrial building since 1985 is mostly the story of the collapse of the 1980's office building boom. In two years, contracting for offices has plummeted 25 percent—three times as fast as the decline of other commercial and industrial building. Since the story of the overdeveloped office building market has achieved the status of one of the great legends of the construction industry, only an update is necessary. Some observations:

- The 1987 rate of contracting, although only three-quarters of 1985's peak volume, is still an impediment to the assimilation of the vast surplus of space accumulated during the five years of accelerated depreciation. At the current rate of new construction, the average vacancy rate will decline only very slowly, if at all.
- A further decline of almost as much as has already occurred is required to restore equilibrium to the market.
- Even though all of the decline since 1985 has been confined to the South and the West, local market analysis indicates that two-thirds of the remaining decline must also come from those regions.
- The decline of office building is expected to level off at 175 million square feet (U.S. total) during 1989 and 1990.
- 1988 will be just one more step in the process of assimilation as contracting for office buildings recedes another 15 percent to 225 million square feet.

Not Just Offices

While office building continues to cope with past excesses, other types of commercial and industrial building will be responding to current stresses in 1988:

- Retail building (stores, shopping centers, warehouses), much of which is a derivative of residential development, will be following the decline of housing starts in 1988. Allowance for lags means that 1988 should bring a steeper (-11 percent) drop for retail building than for housing as retailers adapt next year to 1987's housing setback.
- Industrial building has failed to advance from a plateau of 150 million square feet since reaching that level in 1984. Imports are the problem, and with no quick-fix to the trade gap at hand, 1988 will bring more of the same low volume of industrial building.
- Total commercial and industrial building, still dominated by the office glut, will be sliding another 10 percent in 1988 to a total of 875 million square feet. This will not be the end of the decline, although the end is coming into view.

Institutional Buildings

By the mid-1980's circumstances in the institutional building market had improved greatly over what they were in the depressed early years of the decade. Falling bond rates and rising tax revenues triggered a "catch-up" boom in 1985-86-87, when state and local governments were finally able to proceed with previously postponed projects. During the three most recent years, contracting for institutional buildings averaged almost 25 percent higher than during the blighted years of 1981-82-83.

One problem with "catch-up" building is that sooner or later you get caught up. A slowdown from the recent hectic pace of building is inevitable, and the combination of rising interest rates and the expiration of revenue sharing could be the catalysts. In 1988, these developments are expected:

- Educational building is both benefitting (elementary schools) and suffering (higher education) from current demographic developments. But overall, the long decline of school building throughout the 1970's has been reversed. After a temporary easing in 1988 (-2 percent to 117 million square feet), educational building is expected to settle into a gently rising trend.
- Recent changes in health care policy have encouraged the substitution of clinics and other non-hospital facilities for general hospital care, and changes in tax policy (via ERTA) have helped make their funding available. The result: between 1980 and 1986, construction of non-hospital facilities rose from one-half to two-thirds of all health care construction. Tax reform introduced a new dimension in 1987, and a reduction of 5 percent in total health care construction in 1988 to 72 million square feet is anticipated as investment in clinics and nursing homes loses some of its appeal.
- Total institutional building, including public administration buildings, recreational facilities, etc., is forecast to settle back 3 percent in 1988 to 330 million square feet, a level which should be sustainable for the next several years.

With all but a very few of the building categories that make up nonresidential construction headed for declines in 1988, the total of commercial, industrial and institutional building is estimated to fall 8 percent to 1,205 million square feet. After three years of decline, this would leave 1988 nonresidential building 15 percent below its 1985 peak.

Contract value of total nonresidential building will decline 4 percent to $81.3 billion.

Residential Building

The mid-1980's annual rate of 1.4 million household formations establishes an upper limit for total *shelter* demand (including replacement of losses from the housing stock) at or close to 2.0 million units per year. With mobile homes currently satisfying between 250,000 and 300,000 units of demand annually, the net *potential* demand for conventional one family and multifamily housing during the second half of the decade is not likely to exceed 1.75 million units per year for very long.

As the trend of household formation drifts slowly and steadily downward from its mid-1970's peak, the changing age distribution of the population takes on greater importance. The closer we get to the 1990's the more housing demand will be shifting in favor of one family homes—from a 57:43 ratio in the early 1980's to more like 65:35 in the years ahead. Since the construction value of the typical new one family house is roughly one-and-three-quarters times the value of an apartment unit, the improving quality of future housing demand will compensate for its diminishing quantity. Even so, two barriers stand in the way of realizing the housing market's full potential in the short run—high vacancy rates, and rising interest rates.

Multifamily Housing

Almost everything that has been said about the office building boom (and bust) pertains to apartments as well. Both markets were overstimulated between 1982 and 1986 by the availability of accelerated depreciation. Both were distorted by the abuse of tax shelters. Both have been overbuilt, and apartments currently have their highest vacancy rate in twenty years. Both suffer from lopsided geography—severe glut in the Southwest (10 percent vacant), viability in the Northeast (4 percent vacant). And both face the prospect of unfavorable demographics as the young adult segment of the population continues to shrink in the years ahead. Like offices, apartment construction reached its peak in 1985—at just over 850,000 units (F.W. Dodge basis), a full year before tax reform.

The process of absorbing the accumulated surplus of five years of overbuilding is already in its second year. In 1986, the first step down was not even adequate to halt the rise of the vacancy rate, which only began to stabilize at 7½ percent in 1987 when multifamily starts receded to 585,000. Virtually all of the 30 percent decline to date has been confined to the South and the West, leaving apartment building in the Northeast and North Central regions approximately where it was two years ago.

Bringing the vacancy rate down to an acceptable 5 or 5½ percent requires the assimilation of several hundred thousand empty units. If new construction were to fall as far below its equilibrium level as it was above that level at the 1985 peak, a year of multifamily starts as low as 350,000 units could be imagined. But because the South and West have already experienced deep cuts, and because the Northern regions are not particularly overextended, national apartment starts are more likely to stabilize in the low 500,000's—not much below the current level. This implies an extended period of depressed multifamily building, rather than a "quick and dirty" adjustment. In 1988, a further decline of between 5 and 10 percent to 550,000 multifamily starts is anticipated.

One Family Homes

In 1986 and early 1987, the housing market was doing something it doesn't often do: going both ways at once. For a time, increases in one family building were buffering the collapse of the apartment sector, but not for long. The upward march of interest rates that began in 1987's second quarter has brought back the more familiar one-way housing market. In this case, the way is down.

Analysis of the sensitivity of one family homebuilding to fluctuations in mortgage rates shows a closer relationship on a quarter-to-quarter basis than over a several year span. This simply bears out two important principles. Over an extended period, several variables besides interest rates (general business conditions, affordability, public programs, demographics, etc.) all have an influence on how much housing gets built. But in the short run, credit conditions rule the marketplace.

A rationale for the expected movement of mortgage rates through 1988 was offered on page 2 mainly for the purpose of applying it here. Since the long-term forces that shape housing demand will change little in only a year's time, 1988's one family housing starts—like mortgage rates—should be pretty much a reversal of the 1987 pattern. This means weakest in the first half (below 1.0 million rate) and recovering in the second half as mortgage rates recede.

The expected timing of the reversal of mortgage rates suggests that the 1988 recovery of one family building will develop too late to bring next year's total equal with the current year's 1.0 million starts (F.W. Dodge basis). A total of 975,000 one family units in 1988, with a strong finish, will prepare the way for fuller realization of the market's 1.1 million unit potential in 1989.

For different reasons, market forces will be depressing both one family and multifamily building in 1988. As a consequence, total housing starts are headed for their second consecutive decline from the 1986 peak to 1,525,000 units.

Contract value of total residential building, including nonhousekeeping structures (hotels, motels, and dormitories), will decline 2 percent in 1988 to $116.5 billion.

Public Works Construction

If the recent flurry of Congressional action is any indication, public works programs have moved up the Federal priority ladder.

Passage of three major Federal laws between mid-1986 and mid-1987—the Water Resources Act (1986), the Clean Water Act (1987) and the Surface Transportation Assistance Act (1987)—established a new financial base for public works construction that reaches from here into the 1990's. In general, these new programs define Federal and local government responsibilities for sharing the cost of a continuing level of infrastructure development at least as high, in constant dollars, as the peak reached in 1986. The fact that two of these acts were passed over the President's veto indicates change toward a more workable Federal/local partnership in public works construction. It contrasts with the early stage of the "New Federalism," which was little more than Federal withdrawal.

Transportation Construction

Getting the $88 billion 1987 highway act passed by the time-consuming veto/override process proved highly disruptive to highway and bridge contracting during the past several quarters. Because the old (1982) program expired September 1986, and its successor didn't become law until the following April, there was a period of more than six months when DOT was operating on IOU's. Contracting for transportation construction sagged during 1986:IV and 1987:I, then rebounded sharply in 1987:II as Federal money was released. The net effect of stop-and-go disbursements appears to have been the deferral of perhaps half-a-billion dollars of 1986 construction into 1987. The upshot: a small decline for last year as a whole, and a higher than expected increase (5 percent) in 1987. In 1988, the "backlash" of this bunching of highway work in 1987 will result in another distortion—a small decline of about 2 percent.

A recent survey of state highway and transportation departments by *ENR* bears this out. Responses to the survey suggest that more Federal funds are currently available from the new highway program than the states are capable of matching. As state DOT's search for new sources of construction revenue, their 1988 plans indicate a temporarily reduced level of contracting for highways and bridges.

Environmental Construction

The two new water-related programs provide for an expanded Federal role in water resource development (via the Corps of Engineers), but a reduced role in water quality (via EPA) where local governments will play a bigger role. But not right away.

- The Water Resources Act of 1986 provides spending authority of up to $16 billion for more than 200 new projects that may be started during the next five years. Appropriations for these projects must be made on an individual basis, however, and could run afoul of renewed efforts at deficit reduction.
- The 1987 Clean Water Act, providing $18 billion over nine years for construction of local sewage treatment systems, defers the intended phase-out of EPA's construction grant program until 1989. In that year, direct grants to communities will be replaced by Federal grants to states for the purpose of setting up revolving *loan* funds to finance future construction of local waste treatment facilities. It is intended that communities will replenish the loan funds by collecting user fees on new projects.

On balance, it is expected that the shift from direct Federal grants to revolving loans—through the imposition of user fees—will make a larger annual total of construction money available for sewage treatment plants beginning in 1989.

Recent high rates of homebuilding have been responsible for above-average gains in 1987 contracting for local water supply and sewer lines, boosting total environmental construction 6 percent to $15.0 billion. In 1988, with homebuilding in decline, water resource development (i.e., large-scale Corps of Engineers projects) will set the pace for a smaller overall advance of 3 percent to $15.5 billion.

Total public works construction in 1988 is headed for approximately the same $41-$42 billion total reached in 1987 as developments in the two broad categories offset one another. Transportation construction, settling back to normal, will suffer by comparison with 1987's artificially high total. At the same time, the environmental group will be showing a typical 3 percent advance.

Across The Board

In contrast to 1987's offsetting gains and losses, the construction sector faces something closer to an across-the-board decline in 1988. Most of next year's setbacks will be relatively small ones, however, leaving total construction contract value at $242.0 billion, only 3 percent below the estimated 1987 total. In constant dollars, next year's decline will be more like 6 percent.

As forecasts go, this one bears a higher than usual risk factor. Barring an unlikely general recession, nonresidential building (−4 percent) is perhaps the most predictable of the three major categories, but all the risk is on the down side nonetheless. Public works construction (no change from 1987) carries the risk of program cuts that might be needed to satisfy next year's deficit reduction target. The biggest risk of all, however, concerns housing (−2 percent), which requires some hazardous assumptions about the direction and timing of mortgage rates. More than anything else, interest rates will make the difference between a shallow and a steep decline of construction activity in 1988.

Keep the options open, but for the time being, the shallow cycle is the odds-on choice.

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